JOURNAL OF MANAGEMENT ACCOUNTING RESEARCH
Volume Twenty, Special Issue
2008
pp. 175–208

The Contribution of the Harvard Business School to Management Control, 1908–1980

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ABSTRACT: This paper documents and discusses the evolution of management control, which includes management and financial accounting, in the Harvard Business School (HBS) from 1908 to 1980. Primary emphasis is placed on the roles of the key movers, Ross G. Walker and Robert N. Anthony. The successive alterations in the configuration and content of the MBA courses in the Business School, based on a reading of the course catalogues, faculty papers and other documents on file in Baker Library, and interviews and correspondence with many of the principals, together with an examination of the series of text- and casebooks published by HBS accounting faculty, are the factual basis for this historical study. Concomitant developments at Massachusetts Institute of Technology and the University of Chicago are also brought into the analysis. An appendix contains a complete list of the HBS accounting faculty during the time span under study.

Keywords: Harvard Business School; management control; management accounting; institutional history; Ross G. Walker; Robert N. Anthony.

Data Availability: Data are available from the author upon request, although the documents in Baker Library's historical collections may be used in published research only with its permission.

INTRODUCTION

The ascendancy of management control at the Harvard Business School occurred over a period of decades. In order to appreciate the stages in the development in thinking by the faculty across the years, it is instructive to review the evolution of the accounting curriculum from the beginning of the Business School in 1908 to the 1970s. The two leaders in the transformation from accounting to management control were Ross G.

This paper was written at the invitation of Robert S. Kaplan for presentation at the history colloquium on April 17–18, 2008 in celebration of the 100th anniversary of the Harvard Business School. The author expresses his gratitude to Jeffrey Cronin for research assistance and to Laura Peimer (Archivist, Baker Library historical collections) for her unfailing advice and assistance. The author expresses gratitude to Charles A. Anderson, Shannon Anderson, Harold Bierman, Jr., Jacob G. Birnberg, William J. Bruns, Stanley Buchin, Charles Christenson, William W. Cooper, Gordon B. Davis, Thomas R. Dyckman, Marc J. Epstein, William L. Ferrara, Peter A. Firmin, Michael H. Granof, C. Jackson Grayson, Jr., David F. Hawkins, Regina E. Herzlinger, Anthony G. Hopwood, Charles T. Horngren, Robert K. Jaedicke, Robert S. Kaplan, Kimball Kehoe, F. Warren McFarlan, Alfred Rappaport, Gordon Shillinglaw, George J. Staubus, Robert J. Swieringa, Abraham Zaleznik, and Associate Editor Joel Demski and the anonymous reviewer for comments on earlier drafts. Baker Library has given the author permission to make use of the documents in its historical collections, including the HBS course catalogues.

Italics used in quoted material appeared in the original.

Walker and Robert N. Anthony, the former having been the latter's mentor. Together, they established the concept of control, in stages, from the 1930s to 1982, when the latter retired from the faculty. Beginning in the 1950s, the Control faculty, led by Anthony, published a series of books containing textual material and cases that diffused its teaching and research philosophy around the globe.

The focus of this paper is therefore mainly on the evolution of the accounting *cum* control curriculum, and how and why it changed.

Harvard Business School was not alone in forging this development. Comparable development in the United States was noticeable at Massachusetts Institute of Technology (MIT), across the Charles River. And the University of Chicago was, without question, a major contemporary leader as well. The essence of this movement was to emphasize concepts and the management use of accounting information over technique.

The paper begins with a digression in which three leadership roles identified with the Business School prior to the Second World War are sketched. The author believes that these roles are little known and deserve to be better known. The discussion then proceeds to trace the evolution of the Business School's accounting curriculum until the 1930s and 1940s, when the control concept made its debut. The narrative then turns to the evolution of the first-year Control subject—installed in 1946, combining accounting and statistics—together with the expanding set of elective courses, eventually to include information systems and finally focused on management control. Robert Anthony's 1965 book, *Planning and Control Systems: A Framework for Analysis*, is seen as a major milestone in this evolution.

Then the counterpart developments at MIT and the major initiatives taken over a period of decades at the University of Chicago are examined. In the course of discussing the leadership efforts at these business schools, attention is drawn to the important role of textbooks as vehicles for making more widely known the new approaches to conceptualizing and teaching management accounting and management control.

This paper does not pretend to be a comprehensive review of the evolution of the literature on management accounting and control.

EARLY HBS LEADERSHIP ROLES IN ACCOUNTING

The Harvard Business School, while not the first business school to be founded in a U.S. university, was the first to offer instruction entirely at the graduate level. It pioneered in the development of teaching cases and in the case method of instruction.

Prior to the Second World War, the Business School played a leadership role in American accounting in three important contexts.

First, in November 1908, the year in which the Business School was opened, William Morse Cole, the assistant professor of accounting who had previously taught accounting in the department of economics, published the first textbook on accounting principles in the United States. The book, *Accounts, Their Construction and Interpretation—For Business Men and Students of Affairs*, discussed the norms underlying the preparation of financial statements and also had chapters on the features of accounting in specialist fields, such as railroads, banks, and municipalities. In this book, he was the first accounting author ever to propose a funds statement, which decades later became a required financial statement in company annual reports. He subsequently labeled it the ''Where-got-gone statement'' (1915, 445).

Second, Thomas H. Sanders, a professor of accounting at the Business School, played a series of leading roles in the establishment and enforcement of accounting principles during the formative decade of the 1930s. In August 1934, as research director for the Committee on Statistical Reporting and Uniform Accounting for Industry, he drafted an important paper, ''Reports to stockholders'' (Sanders 1934), for presentation to the Department of Commerce. During 1934–35, when the Securities and Exchange Commission (SEC) came into being, he commuted between Boston and Washington as an unpaid consultant to the SEC on the development of its forms and accounting regulations. This service occurred before the SEC created the Office of the Chief Accountant.[1] In 1938, Sanders was the principal author, together with Henry Rand Hatfield and Underhill Moore, of *A Statement of Accounting Principles*, a report sponsored by the Haskins & Sells Foundation that recommended proper practice in the preparation of financial statements. And in 1939–41, he was the American Institute of Accountants' first director of research after it established a committee to recommend ''generally accepted accounting principles'' for use by publicly traded companies.

Third, in 1936–37, the terms of the Arthur Lowes Dickinson Fund, set up by Price, Waterhouse & Co. in 1924 to support research in the Business School, were changed to provide that ''in addition there may from time to time be appointed, for one year, a man outstanding in Accounting who shall deliver at the Graduate School of Business Administration one or more lectures, and shall be designated as Dickinson Lecturer'' (Sanders 1943, vii). This became the first endowed lectureship in the field of accounting in the United States, and very likely in the world. Annually until its discontinuance in 1955, with a three-year interruption during the war, a Dickinson Lecture in Accounting was given at the Business School, and each lecture was published by Harvard University Press or in the *Harvard Business Review*. Dickinson, an Englishman, had been a leader of Price, Waterhouse and in the accounting profession both in the United States and Great Britain, and he died in February 1935 at age 75. The inaugural lecturer was George O. May, the senior partner of the U.S. firm of Price, Waterhouse and undoubtedly the moving spirit behind setting up the lectureship. May had been much influenced by Edwin F. Gay, the first Dean of the Business School, and he treasured his relationship with the School. In 1969, the Dickinson Fund, fortified by contributions from all of the Big Eight accounting firms, was used to establish the Arthur Lowes Dickinson Professorship of Accounting, with Walter F. Frese becoming the first occupant of the chair.

EVOLUTION AND INFLUENCE OF HBS COURSES IN ACCOUNTING AND CONTROL

Early Development

From 1908 to 1920, one man, Professor William Morse Cole, taught all of the generalist accounting courses, with the assistance of a part-timer during only two of the years.[2] His Accounting Principles course, which was required of all entering MBA students, dealt with the ''the fundamental and universal principles that accountants must use in their work,'' which was stated in the course catalogues from 1914–15 until 1936–37, four years after

[1] The first Chief Accountant was appointed in December 1935. That Sanders quickly became an authority on SEC accounting may be seen in his articles, ''Influence of the Securities and Exchange Commission upon accounting principles'' (1936) and ''Accounting aspects of the Securities Act'' (1937).

[2] From 1915 to 1930, William J. Cunningham, a professor of transportation, taught a course in Railroad Accounting. The reader should consult the Appendix for a list of the faculty who taught accounting at the Business School from 1908 to 1980.

Cole retired.[3] Yet the user of accounting data was regularly said to be the operating manager, not owners or outside interests.

As early as 1912–13, the course catalogue said, "Persons doing satisfactory work in the courses in accounting should without difficulty pass the examinations for the C.P.A. degree"[4] It was not until after 1949–50 that the course catalogue no longer cited one or more courses in which problems would be selected of the type appearing on the CPA examination.[5] The discontinuation of this emphasis might have been due to the intake of older students, namely war veterans, following the resumption of civilian instruction in 1946.

In 1921–22, the course catalogue for Assistant Professor Thomas Sanders' Industrial Accounting said that accounting should be considered as "a means of executive control,"[6] which was the first time that "control" appeared in a description of the accounting courses. Most of the content of the course involved cost accumulation and analysis. In 1923, Sanders published a 600-page textbook, *Problems in Industrial Accounting*, with A. W. Shaw Company. In the book, Sanders emphasized principles and then applications. It contained impressive bibliographies and about 150 cases (which he called problems). The last chapter, "Executive problems involving the use of cost data," consisted of 15 management-oriented cases. A reviewer of his book commented that the problems were attuned to the viewpoint of the executive and not that of the clerk (French 1924, 314).[7] This was one of the earliest Harvard text- and casebooks. In a slender textbook, *Industrial Accounting*, published in 1929, Sanders distinguished "cost accounting" from "industrial accounting," his preferred term. The former, he said, was limited in some minds "to the simple matter of adding up a few items of expense to get the total cost," while the latter signified "the science of the control of business operations through cost analysis" (Sanders 1929, vi).

In 1922–23, Professor D. Earle Burchell, who taught accounting in the Business School for only a few years at the beginning of the 1920s, near the end of his long career, offered a course in Industrial Management and Control in the Industrial Management group of courses, with a description that included the following sentence, "This course approaches industrial management from the standpoint of owners and executives, using accounting and statistics as a means of analysis and budgetary control."[8] This was the first reference to "budgetary control" in the accounting offerings. In 1946, as will be seen, accounting and statistics were combined again in the new first-year subject, Control.

In 1925–26, for the first time, an accounting course, Auditing and Accounting Procedure, taught by Professor J. Hugh Jackson, explicitly referred to outside interests in accounting reports. Accounting was said to be of interest to "the credit man or banker" or to "investment banker."[9] All previous references were to owners or internal management.

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[3] First cited in HBS Course Catalogue, 1914–15 (final edition), p. 18. HBS Archives. Baker Library Historical Collections. Harvard Business School. (All future footnote references to HBS Course Catalogues in this paper should be interpreted as carrying the full citation, "HBS Archives. Baker Library Historical Collections. Harvard Business School.") The author acknowledges that published course descriptions may not necessarily reflect what actually was taught in a course in a given year, but they are the best available evidence.

[4] HBS Course Catalogue, 1912–13, p. 156.

[5] The last such reference to the CPA examination appeared in the description for the course titled Specialized Accounting Problems, in the HBS Course Catalogue, 1949–50, pp. 58–59.

[6] HBS Course Catalogue, 1921–22, p. 41.

[7] In 1930, Sanders produced a revised version of the book, in collaboration with Paul B. Coffman, which was published by McGraw-Hill Book Company, Inc.

[8] HBS Course Catalogue, 1922–23, p. 57.

[9] HBS Course Catalogue, 1925–26, p. 46.

Until the latter 1930s, the Accounting Principles course continued to be concerned with the preparation of the balance sheet and operating statement, mainly for the use of management. From 1929–30 onward, the Industrial Accounting course continued to focus heavily on cost accumulation and analysis, and was oriented toward "the type of information which is to be supplied to financial, sales, and production executives as an aid in the furtherance of their executive policies, to the soundness of that information, and to its significance for management purposes."[10]

Ross Walker's Budgetary Control Course and its Influence

Beginning in 1937–38, following Professor Ross G. Walker's return in 1935 from a five-year assignment as treasurer of a woolen mill,[11] three of the course offerings in accounting reflected a major shift in focus, and Walker himself seems to have been the driving force. First, the description for the Accounting Principles course, with Walker a member of the teaching team, said, "The purpose of this course is to develop a capacity to use accounting materials and accounting reasoning in the solution of business problems. Accounting is treated not as a separate subject, but as an integral part of business administration."[12] Walker has been called "an intensely practical thinker" who, according to a colleague, helped bring accounting "out of the green-eyeshade era to become a tool of general management" (quoted in Cruikshank 1987, 242). The nuanced emphasis in the new course description suggested that the manner of preparation and use of a company's financial statements were not an activity of interest solely to the accounting profession.

Then, in the second half of 1938–39, Walker debuted his "experimental" research course, Aspects of Budgetary Control.[13] "In this course," the catalogue reads, "budgetary control is interpreted as a formal technique of coordinating factors of operations with expected business activity. The following three aspects of the subject are considered: (1) budgetary organization and general procedure; (2) definition and control of operating expenditures; (3) integration of the various curves of operating costs with the problem of effective managerial selection of product and price. ... The emphasis throughout is upon the managerial need for basic data as to costs that are not only dependable, but have been digested to the point where all that remains is the determination of policy."[14] Walker was hardly the first accounting academic to focus on budgetary control. In 1922, James O. McKinsey, at the University of Chicago, published a 474-page textbook, *Budgetary Control*, with The Ronald Press Company.[15] But Walker went well beyond McKinsey in carrying the budget into a plan of action.[16]

One of Walker's students in the Aspects of Budgetary Control course was Robert S. McNamara (MBA '39), who later said that Walker's course had a "tremendous influence

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[10] HBS Course Catalogue, 1929–30, p. 36. For a general review of the evolution of the courses on accounting, see Hansen (1939).

[11] Walker had joined the Business School faculty in 1926.

[12] HBS Course Catalogue, 1937–38, p. 47.

[13] Walker called it "experimental" in a letter dated November 29, 1938 to Howard Lewis (Ross G. Walker Papers 1935–1966, box 4, f.4–16, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

[14] HBS Catalogue, 1938–39, p. 50.

[15] The Fleshers (1996, 411) have written that McKinsey's book "provided impetus for the spreading of industrial budgeting," and that in 1945 it "was included on a list of the 12 most indispensable books in the field of management."

[16] McKinsey wrote (1922, 4), "In the past, budgetary control has been considered primarily in connection with governmental units." Interestingly, Walker previously had an interest in governmental budgeting. Prior to his industry leave, he wrote an article, "The governmental budget as an instrument of control" in the June 1926 issue of *The Accounting Review*. He was then at The University of Iowa.

on my behavior'' as President of Ford Motor Company and as Secretary of Defense.[17] Robert N. Anthony recounted a conversation with McNamara in the 1950s, when the latter was at Ford: ''Bob described the [control] system he had installed in Ford, and I congratulated him on it. He replied, 'Thanks, but you know full well that this system is based on what we both learned from Ross Walker' '' (Anthony 1989, 2).[18]

Walker offered the course one more time, in the second half of 1939–40, when Robert Anthony (MBA '40) was a student.[19] Anthony has traced his interest in management control to Walker's course (1952, vii), following which Walker invited him to remain at the Business School after graduation and become his research assistant. In 1989, Anthony recalled the Walker of 1940: ''Ross Walker's lectures contained the main ingredients of today's [Control] course—an emphasis on management uses of information and on behavioral considerations in the management control function'' (1989, 2). Anthony accepted Walker's invitation, and he and McNamara (following an unsatisfactory stint at Price, Waterhouse & Co. in San Francisco) shared an office and taught courses in accounting at the Business School in 1940–42.[20]

Professor Abraham Zaleznik, who joined the faculty of the Business School's production unit in the late 1940s, well before Walker's retirement in 1958, referred to ''the kindly but persuasive Professor Ross Walker, who was a subtle practitioner of transforming the mentality of students from the passive to the active frame of mind.'' Zaleznik observed that ''the subject of Control shifted the emphasis from the standards of the accounting profession to the needs of the manager for information necessary to foster rational behavior'' (2005, 53).

During the second half of both 1940–41 and 1941–42, Walker was scheduled to teach Budgetary Control again, with the following course description (in part): ''In this course industrial budgeting is interpreted as comprising the policies and techniques of formal managerial planning and coordination. The instruction emphasizes the practical integration of operating factors looking toward the maximum effectiveness of management in making the business enterprise a profitable undertaking. Managerial policies are thus seen in terms of concrete expectations, as projected in definitely planned results for the business as a whole. A serious effort is made to give adequate attention to the questions of administrative psychology which are connected with budgetary planning under practical working condition. ... Accounting costs are, of course, seen as a special case in the broad area of managerial costing. An important teaching point is the need of the businessman for basic data as to costs and revenues, which are not only dependable guides as to the proper choice of managerial alternatives, but which require no further development or interpretative restatement in order to serve as a basis for administrative action.''[21] But the only second-year electives he actually offered during those two terms were Industrial Accounting and Budgeting in February–June 1941 and Industrial Accounting in February–June 1942.[22]

[17] Interview with Robert S. McNamara, September 4, 2007.
[18] It has been said that Professors Thomas H. Sanders and Edmund P. Learned, in marketing, also were influential in McNamara's thinking. See Trewhitt (1971, 34).
[19] The HBS Course Catalogue for 1939–40 lists Aspects of Budgetary Control for the second half of the year, but Walker signed grade sheets at the end of that term for Budgetary Control. Communication to the author from the MBA Registrar at HBS, dated February 15, 2008. This shortened title suggests that the course was no longer ''experimental.''
[20] In 1942, Anthony entered service in the Navy, and McNamara became an instructor in the Statistical School (see below).
[21] HBS Course Catalogue, 1940–41, p. 54.
[22] Communication to the author from the MBA Registrar at HBS, dated February 15, 2008.

Finally, in the first half of 1940–41, Walker completed his redesign of the accounting offerings. Together with Professor W. Arnold Hosmer and Assistant Professor Thomas H. Carroll, he launched a course entitled Administrative Accounting, which, the catalogue reported, ''looks at the reporting problem from the point of view of the controllership function in management, in which function the emphasis is upon the specific administrative purpose to which accounting data may be addressed, as contrasted with the characteristic general-purpose objectives of conventional accounting. Thus the problem materials of the course deal with the accounting prerequisites to particular executive action in business administration.''[23] The three instructors thus contrasted accounting data required for evaluating past performance, which is required for reporting to outside interests, with ''the data required for choosing from alternative courses of action in planning for future operations.'' This aim, they said, ''is occupied with the materials needed by management in its ever-present quest for the maximum favorable combinations of such operating variables as price, product, and cost.'' This course was scheduled to be offered again during September 1941–January 1942 term but was not in fact given.[24]

Walker's elective courses clearly placed emphasis on supplying accounting information for the purpose of the taking of executive action on planning and control decisions. With respect to the term ''control,'' Walker wrote, ''Always when I use the word control, I am not thinking solely of the negative aspect of placing a limit on action, but also of its affirmative sense of assuring an adequate supply of the means of successful operation.''[25]

Walker, although unquestionably an influential figure in the Business School, was little known to academics outside the School. He wrote no books and few articles in his long career. Perhaps his most important article-length work, in 1938, did not appear in a journal but instead in a little-noticed collection of writings by Business School faculty and published by Harvard University Press. In the essay, he explained how ''time and aggressive experimentation'' had brought ''the principle of pre-costing operating expenditures to its practical conclusion as a technique of control.'' He added, pointedly, that ''this principle is to be credited with much that has been done to free the executive from his old dependence upon the rigid cost data of conventional accounting, the essential objective of which is always a broad stewardship and not analysis of alternative courses of action'' (1938, 190).

National Defense and Wartime Course Programs: A New Course in Management Controls

From 1941 to 1945, the Business School ran courses for the Army, Navy, and Army Air Forces (AAF), and for other branches of the federal government. It also trained employees to become supervisors in essential war production and retrained executives displaced from their peacetime occupations to transfer their skills to war industries (see Cruikshank 1987, 209–273; Fraser 1943; Two Important Changes 1941; Hosmer 1946). It all began in September 1941 with the 12-month program for the Industrial Administrator degree, which was designed to train men for jobs of immediate usefulness in government

[23] HBS Course Catalogue, 1940–41, p. 52.

[24] Communication to the author from the MBA Registrar at HBS, dated February 15, 2008. See footnote 26, below, for an explanation of the non-offering of some scheduled courses during this period.

[25] Letter dated November 29, 1938 to Howard Lewis (Ross G. Walker Papers 1935–1966, box 4, f4–16, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

service or in industries related to National Defense.[26] One of the required courses in that program was Accounting Control. The first half of the course dealt with the preparation of "balance sheets, income statements, and specialized operating reports. In the second half of the course, the emphasis is on methods of control and on the effects of accounting policies on balance sheet amounts, working capital position, and income. ... Throughout the course the point of view is primarily that of the controller or other officer directing accounting activity. ..."[27]

In June 1943, the faculty voted to suspend civilian instruction for the MBA program altogether to devote the School's energies entirely to the war effort. A number of faculty taught in the Statistical School (known as the "Stat School") for the AAF Statistical Control Division, including, at the outset, Robert McNamara, who then became "instrumental in organizing the statistical control system for the Eighth Air Force" (Faculty notes 1943, 83). In February 1946, he joined Ford Motor Company as the most prominent of the "Whiz Kids" (see Shapley 1993, ch. 3; Byrne 1993).

Management Controls Course

Professor Richard F. Vancil, who joined the faculty in 1958, has written that, during first half of the 1940s, when the Business School was mobilizing to train military officers and civilian executives, "Its mission was to enhance their analytical skills, helping them to optimize the management of scarce resources available for the war effort. ... Adapting, the faculty poured old wine into new bottles and called it 'Management Control.' ... A dozen or more faculty members had been involved in designing and teaching the Management Control course during World War II, but three stood out: Ross G. Walker, Edmund P. Learned, and Charles A. Bliss" (1989, ix, x).[28] Cruikshank records that Dean Wallace B. Donham told Learned that he wanted the Management Control course in the new Industrial Administrator degree program "to be a combination of the control concepts represented by [Professor Richard] Meriam in Industrial Management, by Walker in the advanced accounting field, and by you and Bliss in Marketing and Statistics" (Cruikshank, 1987, 242). Furthermore, Donham told Learned, "I want you to accept the leadership and to blend into the new course of Management Control a combination of human relations concepts and management control concepts. You may draw upon Professor Walker, Professor Meriam, and Professor [Fritz] Roethlisberger."[29] The resulting course, known as Management Controls, was given for the first time as a requirement in the third term of the Industrial Administrator degree program for its sessions which began in September 1941 and June

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[26] During the Depression years, Dean Wallace Donham was looking for ways of keeping his faculty together by reversing the decline in income. His proposal for a Bachelor of Business Administration degree was rebuffed by the faculty. The Industrial Administrator degree program was seen as the way out of the Business School's financial predicament. The financial exigencies during the late 1930s and early 1940s were likely an explanation for why certain scheduled MBA courses were not actually offered. See Edmund P. Learned, "History of Management Control 1943–1945," pp. 1–3 (Edmund P. Learned Papers 1927–1985, box 8, folder 5, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

[27] HBS Course Catalogue for Industrial Management Engineering, A Twelve Months' Course Leading to the Degree of Industrial Administrator, June 15, 1942 to June 12, 1943 [and] September 24, 1942 to September 18, 1943, p. 9.

[28] The author is grateful to Robert S. Kaplan for drawing his attention to this source. Charles A. Anderson, a member of the HBS business policy faculty in the 1940s, recalls that Ross Walker was the one principally responsible for bringing the accounting and control idea into the new course. Interview with Charles A. Anderson, August 21, 2007.

[29] Edmund P. Learned, "History of Management Control 1943–1945," p. 4 (Edmund P. Learned Papers 1927–1985, box 8, folder 5, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

1942, and also as an elective in the MBA program in 1942–43. In the budgeting section of the new course, Ross Walker made use of the cases he had designed for his Budgetary Control course. A course entitled Personnel and Management Controls was taught in the Business School's War Industry Training Program in 1942–43 and again in 1944–45. A Management Controls course was included in the first two offerings of the Business School's new 13-week Advanced Management Program, in the fall 1945 and spring 1946,[30] which was an outgrowth of a special, 15-week retraining course the Business School had designed in 1943 for the U.S. Office of Education (see Copeland, 1958, 126–130).

In the offering of Management Controls in the Industrial Administrator degree program in 1942–43, emphasis in the catalogue description was placed on the transmission of business policies through ''the human organization'' and the need ''to assist management in the size-up of human problems in the organization.''[31] The first of these two points, but not the second, was included in the description for the Management Controls course in the 16-month MBA program, mounted in conjunction with the Reserve Officers' Training Corps, in 1942.[32] George F. F. Lombard, then an assistant professor who was one of the instructors in the course, wrote, ''Management Controls pulls together the human and technical problems of an administrator and emphasizes the fact that at the point of action they are but different aspects of a single total situation'' (G.F.F.L. [George F. F. Lombard] 1943, 10).

Management Controls was a unique course, an experiment in capitalizing on the comparative advantage of the Business School's wide array of disciplines.

Debut of First-year Control, and Certain Elective Accounting Courses: 1946–47

First-Year Control Subject

During the war years, the Business School faculty completed a major curriculum reform of the MBA program (see Cruikshank 1987, 264–272), which resumed operation in February 1946. Ross Walker was a member of the Educational Policy Committee, which oversaw the reform. Under the new program, the required first-year curriculum was composed of a single course, Elements of Administration, which was divided into six parts, ''each handled from a managerial point of view rather than as abstractions divorced from the setting of administering an enterprise.''[33] The ''administrative point of view'' had become paramount by then. One of the parts, or subjects, was Control, which the curriculum review committee had called ''Administrative Accounting and Statistics'' in one of its early drafts. It combined Accounting Principles with Business Statistics—as Vancil has written, ''in order to link data with analysis'' (1989, x). These two previous courses were to be integrated in Control, not just merged with boundaries between them, and all members of the teaching faculty were to teach the entire subject. In effect, therefore, Ross Walker's notion of achieving control through the budgetary process became the touchstone for the new offering. Robert Anthony was a leading instructor in the subject from the outset.[34]

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30 HBS Course Catalogue, 1945, pp. 48, 51–52.

31 HBS Course Catalogue for Industrial Management Engineering, A Twelve Months' Course Leading to the Degree of Industrial Administrator, June 15, 1942 to June 12, 1943 [and] September 24, 1942 to September 18, 1943, p. 13.

32 HBS Course Catalogue, 1942, War Training Program, p. 55.

33 HBS Course Catalogue, 1946, p. 28. The one course with six (later seven) parts was dropped after 1950–51, when the ''parts'' became the courses.

34 In 1963, Anthony became the first holder of the Ross Graham Walker Professorship of Management Controls (Robert Anthony and the Ross Walker Chair 1964).

Charles Bliss, aided by groundwork done earlier by Edmund Learned, led the way for statistics to join with accounting in the new offering.[35] The catalogue description affirmed that all of accounting, not just the costing side, should be responsive to the needs of management: "The emphasis throughout is upon the wise use of figures and accounts toward some governing purpose, and upon securing an understanding of their limitations as data supporting actual administrative decision [sic]."[36] Accounting reports to outside interests were not mentioned, but, as noted below, management's oversight when preparing such reports became an important dimension. It was stated in the Business School's *Alumni Bulletin* that "the purpose of the course should be primarily to give 'management skill' and, secondarily a technical skill; the reverse is *not* the purpose of the course" (The course in Control 1947, 12). Faculty had been concerned for some years that quite a number of MBA students had a "strong distaste for figures," and the decision was made to emphasize management uses rather than data-gathering procedures.[37]

How was Control named? No one knows definitively, but the *Harvard Business School Bulletin* related a story, perhaps apocryphal, as follows: "Dean [Donald K.] David was talking with a group of the Faculty about the matter when suddenly he banged the table with his hand and burst out: 'Well, damn it, we're talking about *control*. How do you use figures to *control* a business enterprise?' " (Taking the mystery 1961, 27–28).[38]

In a memorandum about Control apparently written in 1945, Ross Walker wrote:

> I believe it to be unwise to have accounting and statistics taught in an atmosphere of "pure technique," or of a mere record of past events, quite apart from the drama, the discipline, and the critical search for significant and appropriately measured facts which are characteristic of the plan of action, or of the need for decision in choosing a course of action.

He said that the new course "is by no means, in my opinion, a futile repetition of the 'old way of doing.' " He then ticked off six "important new things" that this novel mixture of accounting and statistics offers:

> It completes the quantitative foundations of the budget and the accounts, by providing not only the *absolute* data of the historical record, but also the *relative* dimensions of those data as a guide to choice of course of action and to intelligent evaluation of actual results.
>
> It provides as a foundation the working tools, the arithmetic, and the vocabulary.
>
> It explains the origin of accounting concepts in why the things happen from which the concepts originate—hence is critical in the managerial-operating versus the professional accounting sense of the term.

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[35] Anthony (1956, viii–ix) credits Walker and Bliss as "the two men who were largely responsible for creating and developing [Control]."

[36] HBS Course Catalogue, 1946, pp. 31–32. See also The course in Control (1947).

[37] See "Excerpt from MBA Report of Educational Policy Committee—February, 1945," p. I–2 (Ross G. Walker Papers 1935–1966, box 9, f.9–8, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School). Beginning in 1946, the catalogue description of the Control course said, "By repeated exposure to the quantitative aspects of business problems in their administrative setting, the minds of students with the familiar dislike for figures will be opened to their practical common-sense usefulness and the conventions which have long since been adopted with respect to them." HBS Course Catalogue, 1946, p. 32. It is interesting to speculate whether the emphasis on accounting information for management decisions might have been rationalized in the minds of some as necessary to overcome students' aversion to figures.

[38] As early as 1919, E.I. du Pont de Nemours & Company used "Executive Committee Control Charts" to plan, control, and motivate its people. See Johnson and Kaplan (1987, ch. 4).

It constantly seeks to tie figures to purposes and to the cost of the figures themselves.

It emphasizes future versus past action, and future data versus past data.

It weaves statistical method, tool, strategy, and interpretation into the fabric of management in a cumulative design of functional aims.[39]

The Control subject therefore carried forward Walker's view, expressed for the first time in the Accounting Principles course description in 1937–38, that accounting, including financial accounting, was "an integral part of business administration." Professor Melvin T. Copeland, in his historical account of the Business School, *And Mark an Era*, singled out Ross Walker for his work in "fostering the control point of view" at the School, but he also said, "Some of the experiences of members of the Faculty in the military programs of instruction also contributed to the development of the concept which took form in the new course in Control" (1958, 158). Among the influential wartime experiences would have been the development and offering of the Management Controls course and the faculty's involvement in the Stat School. As for the Management Controls course itself, it, together with the Human Relations course and the Stat School, formed the basis of the new Administrative Practices and Procedures course, a full-year requirement in the new curriculum, which Edmund Learned directed.[40] This new course was said to be primarily concerned with "getting things done through people" (Postwar courses 1947, 120).

Copeland has written that "the most significant innovations in the new first-year program [in 1946] were the courses in Control, Administrative Practices, and Public Relationships and Responsibilities" (1958, 126).

Elective Courses

An elective course, Corporate Accounts and the Public, offered by Thomas Sanders, centered on "accounting as a factor in questions of public policy [i.e., reporting to the several regulatory bodies, including the SEC] and administration."[41] A second elective course, Financial Accounting, taught by Professor W. Arnold Hosmer, was said, in the catalogue, to have as one objective "to provide means for acquiring skill in accounting analysis, especially in the adaptation of accounting as an instrument of administration to particular managerial situations."[42] The following year, the one-term Financial Accounting course became Financial Accounting I and II, spanning two terms. The catalogue description for the second course, with Hosmer and Associate Professor Russell H. Hassler as instructors, included the following: "Accounting reports to senior executives and directors are largely in the form of financial accounting statements."[43] These financial accounting courses, therefore, focused on management uses as well as external reporting issues.

Industrial Accounting I and II were taught by Professor Clarence B. Nickerson. The reviewer of his 1954 book, *Cost Accounting: Text, Problems, and Cases*, published by McGraw-Hill Book Company, commented that "There is a bare minimum of procedural

[39] The quotations from Walker appear in "Introductory Statement," pp. II–1 to II–2 and II–6 to II–7 (Ross G. Walker Papers, box 9, f.9–8, used with the permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

[40] Memorandum to The Long-term Committee and The Transition Committee from the Joint Drafting Subcommittee [of the Educational Policy Committee] on the proposed four-term MBA program, ftn. 3, undated but evidently written between 1943 and 1945 (Educational Policy Committee Records, 1943–45, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).

[41] HBS Course Catalogue, 1946, p. 42.

[42] HBS Course Catalogue, 1946, p. 44.

[43] HBS Course Catalogue, 1947–48, p. 46.

training. Nor does the book bring out to any extent the theory supporting many practices discussed. It will be most valuable as an exposition of how cost accounting can serve management'' (Burke 1955, 165). The catalogue for 1947–48 stated that his two courses ''are both designed to meet the needs, not only of financial and accounting officers directly responsible for accounting and cost work, but also of executives who use accounting data in handling administrative problems.''[44]

Subsequent versions of First-year Control

From 1948–49 to 1958–59, the catalogue description of Control began, ''Control emphasizes the figure aspects of administration. ... [accounting and statistical method] are not studied as ends in themselves but as preliminary scaffolding necessary to the task at hand, the imaginative use of figures in operating management situations.''[45] But it was difficult to find instructors who could teach both accounting and statistics. Statistics faculty struggled to teach accounting, and most accounting faculty lacked a solid background in the nascent field of Bayesian statistics. Robert K. Jaedicke, who was an assistant professor at the Business School in 1958–61, recalls, ''Howard Raiffa and Bob Schlaifer used to teach us statistical decision theory so we could teach it to the first years!! One step ahead of the class if we were lucky.''[46]

It would seem that the Business School was, in at least two respects, in advance of the reports sponsored by the Ford Foundation and Carnegie Corporation, which were published in 1959. They both recommended that business education should draw much more heavily on quantitative analysis and the behavioral sciences (Khurana 2007, ch. 6). The Control course brought statistical decision theory directly into play with accounting, and human relations had become an important element in the required Administrative Practices and Procedures course. Nonetheless, the Business School appointed a committee with Robert Anthony as chairman to review the required first-year curriculum in the light of the two reports (Harvard Business School Professor 2006).

Beginning in 1963, as a result of the Anthony committee's first-year curriculum reform, the unitary course Control was replaced by four subdivisions of a course entitled Managerial Economics, Reporting, and Control (known as MERC) I–IV. MERC I was primarily financial accounting, MERC IV was primarily management control, and MERC II and III were concerned with economic analysis of management decisions and statistical decision theory.[47] This four-part set represented a more efficacious division of labor for the faculty. Students were required to take all four parts of the course. MERC lasted until 1970, when the singular course called Control was reinstated, without any statistics or managerial economics.[48]

In 1963–64, for the first time, managerial economics, by name, became explicitly a part of the Control course, yet topics in managerial economics had found their way into the course in the 1950s. The origin of managerial economics, both the term and the field of study, may be traced to Joel Dean's path-breaking book, *Managerial Economics*, published in 1951 by Prentice Hall, Inc. Its aim was to show how microeconomic theory could be used to make managerial decision making more rational. In the final chapter, Dean

[44] HBS Course Catalogue, 1947–48, p. 51.
[45] HBS Course Catalogue, 1948–49, p. 24.
[46] Communication to the author from Robert K. Jaedicke, dated August 17, 2007.
[47] Communication to the author from Charles Christenson, dated August 29, 2007.
[48] In 1968, the MERC course was reorganized into a two-part set, I and II, with the same coverage over the same number of months of study.

proposed an analytical framework for capital expenditure analysis, which he called capital budgeting and which gave prominence to the term.[49] The subject of capital budgeting was soon brought into the Control course.

In 1954, Robert Anthony was an expert witness opposite Joel Dean in an antitrust case involving United Shoe Machinery Corporation, which turned on the application of present value. Anthony later wrote, ''This litigation made me a convert to present value, and I wanted to build our capital budgeting material [in Control] around this concept. Some of my colleagues resisted strongly. They said that present value might be appropriate for a court case, but it was much too esoteric to use in ordinary business decisions'' (1989, 8). Present-value tables had been available for many years, but because they were applied mainly to financial assets, such as mortgages, typically their rates did not exceed about 6 percent. Faculty members were scared off by the need to use logarithms to make present-value calculations. Anthony's research assistant (and later a faculty colleague), Charles Christenson, solved the problem by constructing a comprehensive set of present-value tables (Anthony 1989, 8).[50] In the Control course, net present value shortly superseded the internal rate of return, but Anthony lamented that the Finance faculty ''quickly saw the glamour of net present value'' and succeeded ''in wresting the topic away from the Control faculty'' (1989, 9). It was not long before managerial economics became a staple in managerial accounting, managerial cost accounting, and managerial finance courses throughout the country (Shillinglaw 1991, 231).[51]

The course catalogue for 1963–64 made it clear that the field of Control ''is *not* designed with the vocational objective of training controllers. Rather, the major objective is to provide a rigorous and systematic approach to control as one major aspect of management.''[52]

Some Developments in the Elective Course Work in Financial Accounting

In 1957–58, Walter F. Frese, then a visiting professor, took over the teaching of Financial Accounting I and II. The following year, as a full professor, he placed his stamp on the course. He changed the catalogue description to emphasize the subjectivity of accounting policy choice, without saying so explicitly. The ''underlying objective'' of the course, per the catalogue, ''is to develop an understanding of the significance, potentialities, and limitations of accounting as a means of communication and control with respect to the financial condition and operation of business.''[53] He had a large influence on David F. Hawkins, who took Frese's course in 1958. Hawkins recalls that Frese shifted the way in which the Business School taught financial accounting from an emphasis on accounting principles to a study of the financial accounting process, so as to engage managers in the process of setting their company's ''accounting policy'' as part of its overall strategy.

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[49] Dean elaborated on this framework in *Capital Budgeting*, published in 1952 by Columbia University Press. For a further discussion of Dean's work, see Johnson and Kaplan (1987, 163–165). Two earlier pioneering works in capital budgeting were Grant (1930) and Terborgh (1949). A book that carried capital budgeting into business schools' curricula, which has gone through many editions, was Bierman and Smidt (1960). As will be seen below, Anthony's first major textbook also spread the word about capital budgeting.

[50] This was confirmed in a communication to the author from Charles Christenson, dated December 3, 2007. For the expanded table of the present value of a single amount, see Christenson (1955).

[51] Shillinglaw was employed by Joel Dean Associates from 1952 to 1955. He claims credit for coining ''discounted cash flow'' while he was with the firm. Communication to the author from Gordon Shillinglaw, dated February 21, 2008. He used the term for the first time in a publication in Shillinglaw (1955, 277). For a history of the use and discussion of discounted cash flow, see Parker (1969, ch. 3).

[52] HBS Course Catalogue, 1963–64, p. 41.

[53] HBS Course Catalogue, 1958–59, p. 122.

The integrity of financial reporting was uppermost to Frese, namely, which reporting methods best portrayed economic reality. In his Financial Accounting II, he pressed the importance of management's participation in the work of the Accounting Principles Board.[54]

In 1962–63, Hawkins, then an assistant professor, began teaching Financial Accounting I and II together with Frese,[55] and in 1968–69 he took over the course entirely.[56] In the 1970s, Financial Accounting I was retitled as Problems in Corporate Reporting and then as Corporate Financial Reporting.

HBS Text- and Casebooks Spread the New Teaching Philosophy

Beginning in 1956, several of the faculty members teaching in Control and in some of the accounting electives published text- and casebooks that made HBS materials available to instructors elsewhere and which could be used to good effect in teaching courses on the management use of accounting information. These were influential books even though, as will be noted below, they were not the first textbook treatments to break from the tradition in U.S. cost accounting textbooks. Until then, all but a few of the textbooks on cost accounting were focused mainly on stereotyped costing procedures and usually only perfunctorily on the ways in which management decisions could be improved by the use of cost analyses. In his ''Reminiscences'' article in 1989, Anthony expatiated on the ''fundamental ways'' in which cost accounting, as it had largely been taught prior to the 1950s, differed from management accounting:

> First, cost accounting texts dealt entirely with numbers, while management accounting recognizes that human beings use the numbers. Cost accounting texts emphasized cost finding; the objective was to find the cost of manufactured products. The criterion was ''truth''—accounting for the true cost of manufacturing. Cost accounting texts were written for students who planned to become cost accountants.
>
> Management accounting texts emphasize the use of accounting information by managers. The objectives are to assist managers and influence their behavior (1989, 3).

Anthony's Management Accounting

The first textbook to reflect the teaching philosophy in the Control course was Anthony's *Management Accounting: Text and Cases*, published in 1956, which covered both financial and management accounting.[57] In the preface, he specifically stated that the book was ''an outgrowth of experience in teaching the course called 'Control' in the Harvard Business School (although the coverage of that course is much broader than the coverage of this book)'' (1956, viii). Aptly, the title of Anthony's Chapter 1 was ''Management's use of accounting information.'' He maintained that the company's financial statements were used to convey information to outside parties but ''are also valuable to management as a general indication of the over-all status and progress of the enterprise'' (1956, 3). Anthony set out to show in three chapters how the funds statement, the balance

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[54] Interviews with David F. Hawkins and Thomas R. Piper, March 6, 2008. Frese was a member of the Accounting Principles Board from 1962 to 1967. For Frese's views on the importance of management participation, see Frese and Mautz (1972). There were many ''free choices'' in Generally Accepted Accounting Principles in the 1950s and 1960s, thus allowing considerable scope for management to set its accounting policies.

[55] HBS Course Catalogue, 1962–63, p. 46. Robert T. Sprouse taught the course the following two years.

[56] HBS Course Catalogue, 1968–69, p. 59.

[57] Because of this dual coverage, beginning with the sixth edition of the book, published in 1979 (with James S. Reece as coauthor), the title was changed to *Accounting: Text and Cases*.

sheet, and the income statement may be useful to management. Although such a pedagogical approach is accepted in many quarters today, it was virtually unknown in accounting textbooks published in the 1950s and earlier.

The reviewer of Anthony's book in *The Accounting Review* greeted it as a "pleasant surprise," saying, "It is a text shorn of much debit and credit detail with an emphasis upon how accounting information can be used in the management process" (Odmark 1957). In the 1950s, most financial accounting textbooks intended for first-year students were laden with bookkeeping detail, were supplemented with a practice set, and exacted an absorption of Generally Accepted Accounting Principles.

In the book, Anthony said, "Since costs can be controlled only by the people who are responsible for incurring them, an essential concept of control is that of the *responsibility center*" (1956, 269). In this respect, he adopted a term that was first used in 1952 by an Arthur Andersen & Co. partner (Anthony, 1989, 10).

Dulman (1989, 581–582) affirms that the textual material and cases in Anthony's book, together with a comprehensive report on the buy-lease decision he prepared for the National Shoe Manufacturers Association (Anthony, 1954)[58] (relating to the antitrust case mentioned above) and Charles Christenson's extensive present value tables (which Anthony incorporated in his textbook), contributed in a major way to the diffusion of modern capital budgeting methods.[59] Haka (2007, 705) writes that Anthony's *Management Accounting* was "the first widely used business textbook to advocate DCF [discounted cash flow] methods." She adds, "Spurred by the writings of Joel Dean and Robert Anthony, and led by the oil and chemical industries and large professional bodies such as the National Association of Accountants, most large multidivisional corporations adopted decentralized capital budgeting systems based on DCF methods."

In the third edition of *Management Accounting*, published in 1964, Anthony employed the term, "goal congruence" (1964a, 362). Charles T. Horngren believes that this was the first use of the term in the accounting literature (1989, 28, fn. 4), yet the concept had been used earlier by others (see Becker and Green [1962] and Benston [1963]).[60] By this term, Anthony meant that the control system "should be structured so that the goals of people in the organization are, so far as feasible, consistent with the goals of the organization as a whole" (1964a, 362). By 1969, other cost and management accounting textbook authors were citing the concept themselves, yet its use soon became controversial (see Parker 1976).

Anthony's emphasis on the importance of employee motivation was already evident in the 1950s. In 1955, he was a forceful member of an American Accounting Association (AAA) Committee, which issued a statement on cost concepts useful to management for planning and control purposes (Committee on Cost Concepts 1956).[61] He later said, proudly, that this was the first statement by an AAA committee to accord formal recognition to the behavioral aspect of accounting. He further said, "While previous reports on cost had focused on such concepts as 'truth' and 'accuracy,' this was the first to emphasize 'motivation' " (1973, 56). He called for the behavioral aspect of accounting to "be researched jointly by accountants and social psychologists" (56). He wrote:

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[58] Harry V. Roberts, a reviewer of the revised edition in 1955, wrote, "To my knowledge it is the best generally available discussion of the lease or purchase decision" (1955).

[59] By the early 1950s, almost all financial accounting textbooks contained present value tables, but they went only as high as 6 or 7 percent. It was unusual for cost accounting texts to contain the tables.

[60] Becker and Green employed the term, "goal acceptance" (397). The author is grateful to Jacob Birnberg for drawing his attention to these articles.

[61] For his view on the committee's report, see Anthony (1957).

> One of the most insidious half-truths floating around our profession today is the idea that the manager is a resource allocator. Such an attitude implies that the management process is fundamentally a matter of economics without taking into account that a vital component of the management process is that of working with people. This behavioral aspect is at least as important as the economic aspect (55).[62]

Anthony's book, with coauthors, is now in its 11th edition.

Harlan and Vancil on ''Accounting Policy''

A casebook published in 1961 exemplified a novelty, first identified in 1942, in the teaching approach to accounting at the Business School.[63] *Cases in Accounting Policy*, by Neil E. Harlan and Richard Vancil, pointed toward the management decision of how to choose an accounting policy when Generally Accepted Accounting Principles did not give a definitive answer.[64] This was prior to the 1970s when, in times of frequent unwelcome takeover bids and the pressure wrought by consensus analyst forecasts of income statement figures, company managers aggressively managed earnings by attuning their accounting policies to strategic and tactical aims. During the comparatively serene 1950s and 1960s, management's choice of an accounting policy was, it seems, rather more objectively taken, with the aim of providing better information to outside parties. While Harlan and Vancil said that ''a primary role in the formulation of the underlying accounting policy is assumed by the company's chief accounting officer or by its independent public accountants,'' they made it clear that ''the ultimate responsibility for such a decision rests with management'' (1961, 2). Hence, management's interest in the company's financial statements was not only for the feedback it provided when assessing performance but also when making choices of accounting policy. The Harlan and Vancil book was the first publication to deal squarely with this management decision-making issue. By the 1970s, a spate of casebooks on accounting policy choice began to appear.

Hawkins' **Corporate Financial Reporting**

In 1971, David Hawkins published *Corporate Financial Reporting: Text and Cases*, also with Irwin.[65] By then, any altruism of managements' motivations when deciding on accounting policy was being called into question. Hawkins' book, for which, he said, ''Professor Walter Frese provided the pedagogical and corporate-reporting-philosophy foundation'' (1971, xiv), followed in the genre marked out by Harlan and Vancil in their casebook ten years before. In his text- and casebook, Hawkins invited the student ''to assume the

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[62] Anthony, unlike other management accounting researchers, did not point to Chris Argyris' 1952 monograph for The Controllership Foundation, *The Impact of Budgets on People*, as important research. In fact, he was critical of Argyris' research because, he said, it was clear from an article drawn from the monograph that it was a study of three companies' manufacturing plants that ''used the old-fashioned *imposed* type of budget, one dictated by top management without the full participation of the operating personnel.'' Therefore, Anthony said, Argyris was bound to find ''that the budget did not produce good results in these three companies'' (1960, 68).

[63] For the previous reference to ''accounting policy'' in an HBS course, see the extract from the course description for Accounting Control, above. For an ''accounting policy'' course offered at MIT as early as 1934–35, see below.

[64] The publisher of the Harlan and Vancil book was Prentice Hall, Inc. After decades in which The Ronald Press Company was the leading U.S. publisher of accounting books, Richard D. Irwin, Inc. and Prentice Hall, Inc. seized the initiative as the leaders following the war, and they created new markets. Prentice Hall also published Russell H. Hassler and Neil E. Harlan's *Cases in Controllership* in 1958 (which grew out of the course Hassler created in 1952–53, Administration and Review of Accounts). Hassler and Harlan said that their book was not about ''what controllers *do*,'' but ''is designed to show *what* the controller function, in its broadest management sense, *is*'' (1958, 4).

[65] In 1969, Anthony had succeeded the late Willard J. Graham as the consulting editor of Irwin's series of books on accounting.

role with a real sense of the professional and personal involvement of top management in a particular situation responsible for issuing financial data to the public'' (1971, xiii).

Anthony and Herzlinger's Textbook on Nonprofits

In 1975, Irwin brought out Robert Anthony and Regina E. Herzlinger's *Management Control in Nonprofit Organizations*, which the reviewer in *The Accounting Review* said was a book ''focusing attention on a vital but heretofore neglected area'' (McKinney 1976, 934). Herzlinger writes that the book ''revolutionized the curriculum in many schools of public administration and public health.''[66] Previous textbooks in the field had focused on ''fund accounting.'' The book by Anthony and Herzlinger shifted the focus to issues of control and introduced case-based instruction in a setting where most of the instruction had been conducted with lectures.

Other HBS Text- and Casebooks

Between 1962 and 1965, Irwin published three additional books by the Control faculty: *Managerial Economics: Text and Cases* (1962), by Harlan, Christenson, and Vancil; *Management Control Systems: Cases and Readings* (1965), by Anthony, John Dearden, and Vancil (mentioned again below in the section on courses in information systems); and *Management Accounting Principles*, by Anthony (1965a).[67] Most of the Irwin books have gone through numerous editions. In 1964, Addison-Wesley Publishing Company, Inc. put out Anthony's *Essentials of Accounting*, a programmed text, which also came out in many editions.

No other business school has been the source of as many textbooks on accounting and information systems (see below) as HBS.

While text- and casebooks propagated the HBS approach to teaching accounting, it seems that few other business schools, during the first 15 years after the Control course was launched, instituted a single course in which accounting, statistics, and managerial economics were covered (Taking the mystery 1961, 28). It must have been seen as too much for a single course and for the instructors.

One such school was Carnegie Institute of Technology's Graduate School of Industrial Administration (GSIA). In 1968, Yuji Ijiri and Robert S. Kaplan taught Quantitative Controls in Business, which had previously been offered by William W. Cooper, a course whose coverage included both accounting and statistics. Kaplan put an end to this combined coverage, and instead accounting and statistics came to be taught in separate courses. Kaplan recalls, ''my experience was that even though both accounting and statistics were measurement and aggregation approaches that provided useful management information from more atomistic data, the two fields had different conceptual foundations and techniques. I couldn't see the gain from teaching the two courses together; that is, there was no theorem or practice in statistics that helped to explicate a theory or practice in accounting, and conversely.''[68]

ICCH

A very important means of disseminating business cases, written at HBS as well as elsewhere, was the Intercollegiate Case Clearing House (ICCH). It was launched in 1957

[66] Communication to the author from Regina E. Herzlinger, dated April 5, 2008.
[67] One should not overlook the book by a HBS doctoral graduate in accounting who moved to the management department of Northwestern University: Richard L. Smith, *Management Through Accounting*, published by Prentice Hall, Inc. in 1962. Only one edition, however, appeared.
[68] Communication to the author from Robert S. Kaplan, dated March 1, 2008.

by a $120,000 Ford Foundation grant to the American Association of Collegiate Schools of Business (AACSB) and was based at the Harvard Business School (*The American Association* 1966, 15).[69] ICCH, together with the Business School faculty's casebooks, have made a rich supply of case material available to academics around the world.

Howard Raiffa's Institute of Basic Mathematics in 1959–60

In 1959–60, Howard Raiffa, a mathematician who joined the Business School faculty in 1957 and who pioneered the development of statistical decision theory, led a year-long Institute of Basic Mathematics for Application to Business, held at the Business School and financed by the Ford Foundation, to educate business school faculty from around the country in the new mathematical tools. It was said to have produced a major impact on those who attended (Khurana 2007, 265). Raiffa's Institute was one of the outgrowths of the Ford Foundation-sponsored report published in 1959, mentioned above.

Anthony's *Planning and Control Systems*, the Course Work in Information Systems, and its Broader Impact

In 1965, the Business School published Robert Anthony's *Planning and Control Systems: A Framework for Analysis*.[70] His framework juxtaposed and conceptualized the three processes of strategic planning, management control, and operational control, and information systems could be seen as the ''fourth leg'' of his framework. His book did much to establish management control as a field of study. Robert Beyer, a senior partner in the accounting firm of Touche, Ross, Bailey & Smart, reviewed the book for *The Journal of Accountancy*, and wrote that it was ''a major contribution to the field of management planning and control systems'' and was ''a pioneering effort'' (1966, 87).[71] Gordon B. Davis, a pioneering academic in information systems, has written that Anthony's framework ''was clearly the most influential organization model for planning and designing a portfolio of applications for computer systems in organizations.'' Anthony's book, he said, ''was one of the most widely cited in the research literature as Management Information Systems developed into a field of academic study.''[72]

In his book, Anthony wrote that, while there were a number of books with ''Accounting Systems'' in their titles, ''they do not discuss the *use* of accounting information in management control or operational control processes, but rather techniques for collecting and summarizing information as efficiently as possible'' (1965b, 98). He used as an example a textbook entitled *Accounting Systems for Management Control*, which, he said, occupied only 100 of its 450 pages with the management control process, the rest dealing with ''information handling.''

Perhaps stimulated by the early development of the ideas that led to Anthony's 1965 book, John Dearden and Richard Vancil, among others on the Control faculty, joined Anthony to begin developing a stream of courses on management information and control systems. Dearden and Walter Frese offered the first full systems course, Management Information Systems, during the spring term of 1962–63, ''with special emphasis on the way

[69] See also Copeland (1958, 237).
[70] Anthony previewed his thinking in an article, ''Framework for analysis'' (1964c).
[71] Yet Johnson and Kaplan (1987, 168–169) say that Anthony's framework was ''foreshadowed more than a decade earlier by Herbert Simon's investigation of the controllership function in decentralized organizations.'' The earlier study was Simon et al. 1954).
[72] Communication to the author from Gordon B. Davis, dated April 2, 2008.

that [modern data-processing] techniques influence the information available to management'' (in the course description).[73] The offering was, at least in part, an outgrowth of a new full-year course taught by Dearden in 1961–62, Cost Administration, which concerned ''cost accounting, expense budgets, and management information systems.'' The systems end of the course covered ''cost accounting systems, computers and related data process techniques, and the application of computers in management information systems.''[74] In a 1994 interview, Dearden, who had come to HBS in 1959 following ten years as a cost accountant in Ford Motor Company's finance department, said, ''When I first came to Harvard, programming and computers were just emerging. Since I was one of the few people who knew about this technology and its application to business from my work at Ford, I developed a course in management information systems'' (quoted in Harvard Business School Professor 2004). Prior to coming to HBS in 1957, Frese had held several positions in the U.S. Government, including director of the General Accounting Office's (GAO) accounting systems division.[75] While at the GAO, he headed an interagency joint accounting improvement program. The main outcome of this program was legislation requiring all federal agencies to develop and adopt business-style accounting and budgetary control systems.[76]

The 1963–64 offering of Management Information Systems, taught by Dearden alone, carried the following passage in its description, ''This course seeks to develop an understanding of how modern, data-handling equipment and processes can be used to provide management with more relevant, more timely, and less costly information. ... The emphasis in the course is on the manager's problems rather than the technician's problems.''[77] The tenor of this course carried forward the thinking of the Control faculty that the primary focus should be on the management use of information, not on data-gathering techniques. The course became a staple in the second-year curriculum until 1976–77, with evolving course descriptions and an array of instructors. Beginning in 1977–78, the subject seemed to bob in and out of the curriculum under somewhat different titles, reflecting, apparently, the emphasis preferred by different instructors.

In 1963–64, Anthony offered Planning and Control Systems for the first time, with the same title as his forthcoming book. The description included the following sentence: ''among the topics discussed are measurement of divisional performance, transfer pricing, considerations relevant to setting up investment centers and profit centers, the control of managed costs (such as research/development and administrative costs), long-range planning systems, and techniques for appraising internal investment opportunities.''[78] The course adapted freely from managerial economics and reflected the emerging interest in decentralization (see below).

[73] HBS Course Catalogue, 1962–63, p. 50.
[74] HBS Course Catalogue, 1961–62, p. 45. Dearden's Cost Administration course in 1962–63 no longer covered management information systems. HBS Course Catalogue 1962–63, p. 44.
[75] ''Walter F. Frese, Resume of Education and Experience,'' p. 2 (Walter F. Frese Papers, GC 407, used with the permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).
[76] Communication to the author from Charles Christenson, dated March 17, 2008.
[77] HBS Course Catalogue, 1963–64, p. 43.
[78] HBS Course Catalogue, 1963–64, p. 43. Computers may have been a mystery to most HBS students in 1963–64. In their January 10, 1964 issue, the editors of *The Harbus News*, the student-run weekly newspaper, ran a long article, ''Computers—Some history and background,'' which began, ''What is a computer? How does a computer differ from a calculator?'' (p. 2).

In 1964–65, Anthony gave the first course entitled Management Control Systems,[79] and it too became a standard-bearer among the electives. This course seemed to be mostly a continuation of his Planning and Control Systems under a new title.

In 1965, Anthony, Dearden, and Vancil published, with Irwin, *Management Control Systems: Cases and Readings*, which immediately placed teaching materials reflecting the HBS approach into the hands of instructors at other institutions.[80] The book has gone through a dozen editions, testifying to the extent of its impact. The following year, Dearden and F. Warren McFarlan published, again with Irwin, *Management Information Systems: Text and Cases*, which synthesized the group's work thus far and laid the foundation for the next several decades of the general management approach to the management of information.

From 1965 to 1968, Anthony served as Assistant Secretary (Comptroller) in the Department of Defense under his former accounting colleague, Defense Secretary Robert McNamara. While there, Anthony headed ''a mammoth effort to develop and install a new accounting and control system that for the first time made it possible to evaluate the costs of similar initiatives among the different branches of the armed forces'' (quoted in Harvard Business School Professor 2006).

The elective offerings in systems continued to expand, with new courses entitled Advanced Control (by Clarence Nickerson, for the first time in 1964–65, said to be ''essentially a continuation of both Cost Administration and Management Control Systems''[81]), Formal Planning Systems (by Vancil and Frank Aguilar, 1967–68[82]), Computer-Based Systems (by Brandt R. Allen in 1969–70[83]), Management Control Systems in Nonprofit Organizations (by Anthony in 1969–70[84]), Cost Systems (by Robert A. Howell in 1970–71[85]), and Information Systems Administration (by McFarlan and Richard L. Nolan in 1970–71[86]). In 1971, Dearden, McFarlan, and William M. Zani wrote an Irwin book, *Managing Computer-Based Information Systems*. In 1973, McFarlan, Nolan, and David P. Norton (then with Index Systems), published a textbook, *Information Systems Administration*, with Holt, Rinehart and Winston, Inc. Neil C. Churchill, in the foreword to the book, said that ''the authors have brought together the technical knowledge needed to understand the management problems in computing and the management knowledge developed from experience, often bitter, that is needed to deal with information systems problems'' (1973, iii).

John Dearden stirred up a hornet's nest with his article, ''MIS is a mirage,'' in the *Harvard Business Review*, January–February 1972, in which he argued that management's information needs are too heterogeneous and multi-layered to be served effectively by a single, totally integrated management information system. Instead, he said, a grouping of systems should be patterned on management's diverse information needs. Haigh (2001, 48) has written that Dearden was the ''most vociferous critic'' of totally integrated management information systems.

In 1981, the systems faculty left their accounting colleagues in the Control group and formed their own teaching group.

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[79] HBS Course Catalogue, 1964–65, p. 46.
[80] The reviewer for *The Accounting Review* (Harwood 1966, 602) commented that the book was not on ''systems'' at all. He quoted from the authors' page 11: ''The formal management control *system* is only a part of the management control *process*, actually a relatively unimportant part.''
[81] HBS Course Catalogue, 1964–65, p. 46.
[82] HBS Course Catalogue, 1967–68, p. 60.
[83] HBS Course Catalogue, 1969–70, pp. 60–61.
[84] HBS Course Catalogue, 1969–70, p. 61.
[85] HBS Course Catalogue, 1970–71, p. 59.
[86] HBS Course Catalogue, 1970–71, pp. 62–63.

Anthony, Dearden, and Vancil on Decentralization

In addition to Robert Anthony's writings, John Dearden and Richard Vancil wrote extensively on decentralization from the 1960s onward. In the 1950s, a literature on transfer pricing, decentralization, divisionalization, profit centers, and investment centers began to build. An important study in 1954 by Simon et al. advanced the following three-part characterization of the roles of management accounting: score-card, attention-directing, and problem-solving uses (1954, 3–4 and ch. 3). Shank (1989, 54) has written that the objectives implicit in these roles ''still come through in today's textbooks.''

This literature addressed, among other things, whether decentralization of profit responsibility was a sound course to follow and which performance measures were best suited to assess divisional profitability (see Dearden 1962b). One of the major works was David Solomons' award-winning study, *Divisional Performance: Measurement and Control*, published in 1965 by the Financial Executives Research Foundation (FERF). In his study, Solomons cited several recent articles written by Dearden in the *Harvard Business Review*.[87] For his part, Vancil published a major FERF-sponsored study, *Decentralization: Managerial Ambiguity by Design*, with Dow Jones-Irwin in 1979.[88] Vancil's research interests were then in what he called ''management systems broadly defined, ... which includes organization design and measurement and then the process of management—the relationship between managers at the corporate and divisional levels in large corporations, and how these people work together.''[89] Anthony, Dearden, and Vancil addressed these issues in the successive editions of their *Management Control Systems: Cases and Readings* (1965).

In 1959–60, Anthony offered a Research Seminar in Return on Investment,[90] and in 1962–63 Anthony and Vancil taught Profit Planning and Control, which included a section dealing with ''problems in the evaluation of performance of profit-responsible managers, and the effect that profit-center reporting has on the actions of these men.''[91] In subsequent years, these topics relating to decentralization were taken up by Anthony and others in the control systems courses.

Given Anthony's well-known view on the centrality of motivation, it was not surprising that he said in a 1965 conference that ''purely mathematical models of transfer pricing are of little use because they leave out the behavioral aspects which are so important in any real transfer pricing situation'' (1966, 265).

Assessment of Anthony's Contribution

Robert Anthony was the leading figure in the Control group from the 1950s to 1982, when he retired from the faculty. Charles Horngren affirms that Anthony, through his textbooks and his influential study, *Planning and Control Systems: A Framework for Analysis* (1965b), ''was a pioneer in emphasizing the importance of motivation issues in the design of management control systems.''[92] Anthony's longtime colleague, Charles Christenson, has written, ''Bob did more than anyone else to introduce a conceptual structure to management control. ... His 1965 book, *Planning and Control Systems*, became the bible of the field'' (quoted in Harvard Business School Professor 2006).

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[87] Solomons (234, ftn. 2) praised Dearden's *Cost and Budget Analysis*, published by Prentice Hall, Inc. in 1962.
[88] For a review of Vancil's study, see Colson (1981).
[89] ''Interview with Professor Vancil by William Hokanson [apparently in the early 1980s],'' p. 3, (Richard F. Vancil Papers 1958–1991, GC 863, used with the permission of HBS Archives. Baker Library Historical Collections. Harvard Business School).
[90] HBS Course Catalogue, 1959–60, p. 46.
[91] HBS Course Catalogue, 1962–63, p. 54.
[92] Communication to the author from Charles T. Horngren, dated August 20, 2007.

Reform of the DBA Program in Control

After becoming Business School Dean in 1970, Lawrence E. Fouraker wanted to build a more rigorous research component into the DBA program. Most of the previous DBA theses were of a case-study type or were historical studies. In 1975, at the request of the Control faculty, Fouraker hired William W. Cooper, one of the founding faculty at Carnegie-Mellon University's GSIA, to help revise and coordinate the DBA program in accounting and Control. He began offering a Research Seminar in Planning, Accounting and Accountability Systems. The exposition of advanced quantitative methods in the seminar, together with guidance and supervision by Cooper—and by Joseph G. San Miguel in his own doctoral research seminar—led to several doctoral theses using such techniques as data envelopment analysis, statistically designed experiments, game theory, and empirical research methods to produce enriched findings in real-world management settings. One of the first such theses was by Vijay Govindarajan in 1978, entitled "Behavioral effects of audits in health care services—A study using 'exploratory data analysis' and classical statistical techniques," which examined the control effects of audits on the behavior of professional health care providers. Cooper's idea was to wed the Business School's comparative advantage in field research with these analytical techniques, thus enhancing the generalizability of the findings.

In 1980, Cooper left for The University of Texas at Austin.

CURRICULAR DEVELOPMENTS AT MIT

A textbook published in 1951, *Accounting: A Management Approach*, by Ronald H. Robnett, Thomas M. Hill, and John A. Beckett (whose publisher, Irwin, was Robert Anthony's publisher as well[93]) also adopted a focus on the management uses of accounting information. The three authors were at Massachusetts Institute of Technology (MIT). All three, as it happened, held MBAs from the Harvard Business School. Robnett had taught Accounting Control with Anthony and others at the Business School as a visitor in the second half of 1941–42.[94] Together with Wyman P. Fiske, another Harvard MBA who had taught accounting at the Business School from 1923 to 1928, Robnett, and Charles H. Porter[95] offered a number of management- and user-focused courses in accounting for MIT undergraduates in the 1930s and 1940s.[96] Hill and Beckett began as assistant professors of accounting just after the war. Porter (not a Harvard MBA) was Professor of Accounting until his retirement in 1945.

Beginning in 1934–35, the MIT accounting faculty offered a course entitled Problems in Accounting Policy, whose course description said, "All problems will be approached from the administrative viewpoint, and the application of analytical methods to financial data will be stressed" (*Catalogue* 1934, 293).[97] The course continued to be offered until

[93] As Anthony makes clear in his "Reminiscences" (1989, 2), Richard D. Irwin was an innovator, and his company became the largest publisher of business books.

[94] Box BR7022, Box 9 Registrar, Grades 1938/39–1942/43, in folder labeled "Midyear 1942 June Grades" (used with permission of the HBS Registrar's Office).

[95] In 1935, Porter and Fiske published the textbook, *Accounting*, with Henry Holt and Company. Intended for students who were not planning a career in public accounting, the book's treatment of bookkeeping technique was kept to a minimum. The authors' aim was to emphasize "the interpretation of accounting data and to train the student in analysis" (1935, iii). The authors said that they had been using the material in the book as a basis for instruction at MIT for over five years (1935, iii).

[96] During 1945, when the Harvard Business School's MBA program was closed down during the war, one of HBS's accounting professors, Arthur W. Hanson, taught as a lecturer at MIT.

[97] In its course catalogues prior to the 1960s, MIT did not indicate the names of the instructors for courses.

1953. This is an exceptionally early appearance of a course on "accounting policy." In one of the accounting courses, Analysis of Business Statements, the MIT faculty used cases, which were not all that common in business schools then (Catalogue Issue 1937, 155).

The Robnett et al. textbook underscored the primacy of management as user when it said, "The first, and in many respects the most important, business interest served by accounting is management" (1951, 6). Anthony was aware of the approach to accounting instruction at MIT in the 1940s: he wrote (1989, 2), "At about the same time [as Harvard instituted the Control course], a similar course was introduced at MIT by Doc Robnett, Tom Hill, and John Beckett." Yet there is no evidence in the MIT course catalogues that a course combining accounting and statistics, such as HBS's first-year Control subject, was offered in the 1940s.[98] From 1930–31 until the 1950s, MIT did offer an undergraduate course entitled Control Through Business Records (later called Problems in Accounting Control), but the stated course content did not parallel any of the work in Control at HBS (*Catalogue* 1930, 223).

Subsequent editions of the Robnett et al. textbook were written by Hill, Myron J. Gordon, Gordon Shillinglaw, and Philip E. Meyer. Both Gordon and Shillinglaw had taken PhDs in economics, and they taught at MIT from the mid-1950s to the early 1960s. But the Harvard Business School influence in the MIT teaching and in the textbook by Robnett, Hill, and Beckett cannot be gainsaid. It should also be mentioned that, unlike undergraduate programs in business at most other universities, MIT's did not purport to prepare students for the Uniform CPA Examination. Its faculty opted to emphasize interpretation, analysis, and management uses.

In 1961, Irwin published a major textbook, *Cost Accounting: Analysis and Control*, by Gordon Shillinglaw, then still at MIT (just prior to leaving for Columbia University). In the preface, he wrote that the primary concern of his book, unlike cost accounting books then in print, was "with the management uses of cost accounting information. Other texts now available give primary emphasis to accounting procedures and to the relationship of cost to reported company income and the balance sheet valuation of inventories. ... Managerial needs have not been totally ignored, but they have typically taken second place to financial accounting requirements. In short, previous texts have been written primarily as technical manuals for the professional accountant-to-be, the future purveyor of cost accounting information" (1961, ix).[99]

INFLUENCE OF THE UNIVERSITY OF CHICAGO

Faculty members at the Harvard Business School were not the only pioneers in the development of management accounting as the successor to the traditional approach to cost accounting. Even earlier, there was important creative activity being done at the University of Chicago as well.

Classic Treatise by J. M. Clark (1923)

A famous early discussion of the concept of cost was written by an economist then at Chicago, John Maurice Clark, in his 1923 book, *Studies in the Economics of Overhead*

[98] A unique course entitled Accounting, Production and Marketing, which was restricted to Sloan Fellows, was offered beginning in 1949–50 (Catalogue for 1949–1950 1950, 132).

[99] Another book in this genre was Carl L. Moore and Robert K. Jaedicke, *Managerial Accounting*, published by South-Western Publishing Company in 1963. As mentioned above, Jaedicke taught at the Business School from 1958 to 1961.

Costs, published by the University of Chicago Press.[100] Clark has told this writer that his main purpose in writing the book was to provide teaching materials in an area where there was much misunderstanding.[101] In his famous Chapter 9, ‘‘Different costs for different purposes: An illustrative problem,’’ he counseled that ‘‘there is no one correct usage [of cost], usage being governed by the varying needs of varying business situations and problems’’ (1923, 175). He diplomatically suggested that ‘‘the accountant should know the meaning of cost from the standpoint of disinterested economic science, because it embodies, in a sense, that impossible goal to which his practical devices serve as approximations’’ (1923, x).[102] He then proceeded to demonstrate how the concept of cost would be different in nine typical problem areas in the successive stages, from conception to abandonment, of a plant to manufacture a homogeneous product. Clark's book seems to have been largely ignored by writers on cost accounting until 1938, when William J. Vatter, then a research assistant at the University of Chicago, wrote a chapter in which, without citing Clark, he made precisely the same argument, at the end of a tradition-encrusted cost accounting textbook, published by Business Publications, Inc. (predecessor of Irwin).[103] Obviously, Vatter was profoundly influenced by Clark. Following Clark, he adopted the theme, ‘‘different costs for different purposes’’ in the chapter and then illustrated the argument with a series of case situations. Vatter later said that the editorial adviser to the publisher, Willard J. Graham (an accounting professor at Chicago), ‘‘insisted’’ that he write the chapter to be inserted at the end of the book.[104]

In 1950, Carl Thomas Devine, then at the University of Southern California, published *Cost Accounting and Analysis* with The Macmillan Company. He may have been the first of the authors of a cost accounting textbook to treat the ramifications of Clark's analysis (in Chapter 30, ‘‘Cost—Variations of the concept’’).

McKinsey's *Managerial Accounting* (1924)

In 1924, one year after the appearance of Clark's book, James O. McKinsey, an associate professor of accounting at Chicago who later founded the consulting firm which bears his name, wrote volume I of a textbook entitled *Managerial Accounting*. McKinsey's publisher was, like Clark's, the University of Chicago Press. In the preface, McKinsey said he ‘‘regards this text as but a humble beginning in the development of accounting literature

[100] For an incisive review of the book, 40 years later, see Davidson (1963). Also see Frank (1990). The Business School's J. Hugh Jackson reviewed Clark's book in the March 1925 issue of *The American Economic Review*, but he adopted the somewhat skeptical view of the accountant. Thomas H. Sanders, in his 1923 textbook, *Problems in Industrial Accounting*, referred several times to Clark's book but did not build on his ‘‘different costs for different purposes.’’ Hence, members of the Business School's accounting faculty were aware of Clark's work, but it is not known whether they brought much of it into their accounting courses. In a colloquy with Ronald Edwards and Ronald Coase in 1939, Sanders seems to have been wedded to allocating costs to joint products for pricing purposes (Sanders 1939, 518–522).

[101] Conversation with John Maurice Clark, September 1962.

[102] Clark wryly observed, ‘‘it is not easy for people trained in this sort of accounting [i.e., allocating costs to all eventual products], where the whole is necessarily equal to the sum of the parts, to take up the very different kind of analysis involved in a study of differential costs’’ (1923, 207).

[103] The book was *Cost Accounting: Principles and Practice*, by John J. W. Neuner, an associate professor at the College of the City of New York. The chapter was entitled, ‘‘A re-examination of cost accounting from the managerial viewpoint.’’ See also Vatter (1945).

[104] Letter from William J. Vatter to Charles T. Horngren, dated December 11, 1988 (Robert N. Anthony Papers 1941–2002, Series I, box 34, used with permission of HBS Archives. Baker Library Historical Collections. Harvard Business School). In subsequent book reviews, Vatter was unrelentingly critical of the authors of cost accounting textbooks who did not appreciate Clark's argument. See Vatter (1939) and (1946).

from the managerial point of view'' (1924, xiv). The book was virtually devoid of accounting technique and instead was a manual on what executives can learn from financial statements and how a business management can organize operations to achieve effective controls, including budgetary control. It was the first U.S. accounting textbook carrying this title.[105] A second volume never appeared. In his review of the book, W. A. Paton said that McKinsey was ''justified in insisting upon the importance of the managerial point of view for the college student of accounting. Certainly it has been true that our courses in accounting have been unduly influenced by the needs and interests of the public accountant in his rather narrow auditing capacity'' (1925, 471).

Vatter's *Managerial Accounting* (1950)

In 1950, Prentice Hall, Inc. brought out a ''preliminary'' edition of William Vatter's *Managerial Accounting* (which was not reviewed in *The Accounting Review*).[106] In sharp contrast to most cost accounting textbooks until then, Vatter's book discussed data-gathering and classifying procedures entirely in the context of facilitating managerial decision making, not as if the concatenation of procedures were ends in themselves. He wrote that ''The materials presented here have been designed to emphasize basic conceptions rather than merely to describe procedures'' (1950, 510). Each chapter contained a logical explanation of why and how accounting analysis contributes to the making of decisions. He wrote, ''One of the purposes of this book is to help the reader bridge the mental gap between dollars and cents shown in accounting statements and reports, and the things that are the real substance of managerial action'' (1950, 5). Vatter adopted J. M. Clark's notion of ''different costs for different purposes'' throughout. He wrote that ''the meaning of a concept is to be found in the operations involved'' (1950, 9). He distinguished the work of the accountant as statistician, that is, producing information for a unitary purpose, from that of tailoring accounting information to the particular class of decision to be made, the specific purpose at hand.[107] In the late 1940s, prior to publication of the book, Vatter experimented with his manuscript in his accounting courses at the University of Chicago (Vatter 1950, v; Horngren 1991, 234).

Horngren's *Cost Accounting* (1962)

Vatter's impact became further evident in the Chicago PhD program. George J. Staubus, Charles Horngren, David Green, Jr., and George H. Sorter, among others, were Vatter's doctoral students, and their writings were true to his influence. Staubus pioneered ''decision usefulness'' accounting,[108] and Sorter and Horngren argued for ''the relevant costing approach'' to asset recognition (1962). Horngren had studied in a traditional undergraduate accounting curriculum and became a CPA, following which he completed an MBA at Harvard in 1952. He had thus been exposed to ''the administrative point of view'' of accounting, not just to the accountant's point of view of accounting. At Harvard, his concept of proper accounting was shaken by an article he read that espoused the superiority of

[105] In the same year, James H. Bliss, a company controller, wrote *Management Through Accounts*, published by The Ronald Press Company, which had the main purpose of showing businessmen how to analyze and use financial statements and other data derived from the accounts.

[106] Vatter was not convinced that the manuscript was ready for publication but acceded to the publisher's blandishments to put it out in provisional format, in paperback and without an index. ''The book was reprinted eighteen times before Professor Vatter called a halt in 1962'' (Horngren 1991, 234). Vatter's book was reprinted again in 1986 by Garland Publishing, Inc.

[107] For further discussion of Vatter's book, see Johnson and Kaplan (1987, 159–162).

[108] For a retrospective on his work, see Staubus (1999).

"direct costing" over the long-practiced absorption costing to determine product cost. Then he entered the Chicago PhD program, where he was treated to Vatter's "relevant v. irrelevant costs," which again struck Horngren as pure heresy. He taught Vatter's book at Chicago and soon was won over by the need to emphasize decision making and concepts over accounting technique (Horngren 1999, 21–22). In 1962, Prentice Hall, Inc. brought out Horngren's *Cost Accounting: A Managerial Emphasis*, which eventually came to dominate the field (with coauthors, is currently in its 13th edition). The book was dedicated to Vatter, as it was inspired by his *Managerial Accounting*. In the preface, Horngren wrote, "This book's goal is to put cost accounting in focus as a highly developed quantitative device for helping managers to select and reach their objectives" (1962, vii). He said that the major theme of the book was "different costs for different purposes" (1962, vii). The reviewer of the book in *The Accounting Review* wrote, prophetically: "This is one of the new wave of cost accounting texts which are transforming the subject from a concentration on inventory costing systems into a dynamic study of accounting's role in planning and control. This book is certain to have a major part in this transformation" (Enke 1963, 217).[109]

Horngren and Robert Anthony came to know each other during the Ford Foundation-sponsored four-week seminar, New Developments in Business Administration, held in July–August 1961 in Williamstown, MA. Anthony taught a one-week course, and Horngren taught a four-week course that was based on the manuscript for his cost accounting textbook.[110]

Goetz's *Managerial Approach* (1949)

Another influence emanating from Chicago was the crusading work of a much under-appreciated accounting academic, Billy E. Goetz. After 20 years as an academic and management consultant, he obtained a PhD from Chicago in 1949, and McGraw-Hill Book Company, Inc. published his doctoral dissertation under the title *Management Planning and Control: A Managerial Approach to Industrial Accounting* (1949). William Vatter is among those whose advice and assistance he acknowledged in the preface (1949, viii).[111] The book was an academic appeal for the need to focus accounting on the decisional needs of management. He wrote bluntly: "Accounting is an expensive tool, of no value in itself. Its values are derived wholly from the importance of its [managerial] objectives and its success in attaining these objectives. ... The managerial objectives of accounting are to provide data to help management plan and control operations" (1949, 4). His criticism of the way cost accounting was being done was withering: "Because it is misconceived, is misdirected, and attempts the impossible, traditional cost accounting is at once overelaborate, inadequate, and misleading" (1949, 137). His book draws heavily on the economics and accounting literature to demonstrate his argument. Goetz chose his subtitle carefully: "*Managerial* is intended to exclude the legal-financial aspects of accounting. *Industrial* removes from consideration banks, governments, wholesalers, retailers, insurance companies, brokerage houses, and public utilities. *Accounting* eliminates engineering from the area analyzed in this study" (1949, 8). Goetz's dissertation underpinned his textbook, *Accounting in Action:*

[109] Vollmers (1996) counters the argument that early cost accounting textbooks focused mostly on inventory costing. Nonetheless, the derivation of inventory cost for inclusion in financial statements was an important agenda item in many early cost accounting textbooks.
[110] Communication to the author from Charles T. Horngren, dated August 20, 2007.
[111] A claim of Chicago influence on Goetz may be tenuous, however. In his preface, he states, "This book has been in the making for twenty years. It has been written and rewritten, thrown away and started over" (1949, vii).

Its Meaning for Management (with Frederick R. Klein), published in 1960 by Houghton Mifflin Company. Goetz spent most of his remaining academic career at MIT.

Bierman's *Managerial Accounting* (1959)

A doctoral student of William A. Paton's, Harold Bierman, Jr., published *Managerial Accounting: An Introduction* in 1959 with The Macmillan Company, which was divided into two parts: financial and managerial accounting. Especially in the latter part, the author emphasizes management uses and distinguishes between relevant and irrelevant costs. Prior to joining the Cornell University faculty in 1956, he spent a fruitful year at Chicago, where William Vatter and his colleagues and PhD students helped shape his thinking. At Chicago, he taught from Vatter's *Managerial Accounting*, which, he has said, was a ''major influence'' in the writing of his own book.[112]

The Influential Work of Demski and Hopwood

Two doctoral students at Chicago in the 1960s made major contributions to management control and broadly to accounting during their long careers. Joel Demski completed his doctorate in 1967, and Anthony G. Hopwood finished his in 1970. Horngren was Demski's doctoral supervisor and played a ''huge'' role in his development.[113] Demski's subsequent research consisted of path-breaking work on applications of information economics and agency theory to accounting, demonstrating rigor and originality (see Feltham 2007). Hopwood, whose PhD dissertation was a benchmark for field research studies in accounting, founded the leading journal, *Accounting, Organizations & Society*, in 1976, and has been its editor and a leader in behavioral accounting research, drawing expansively on the social sciences and humanities.

EARLY INFLUENCE FROM GREAT BRITAIN

In the 1930s, two academics at the London School of Economics (LSE) wrote penetrating articles on the relevance of opportunity cost for business decisions: Ronald S. Edwards and Ronald H. Coase. As this paper is concerned with the developments in the United States, readers are invited to consult the discussion of the LSE initiatives in other sources.[114] These writings did not seem to have any noticeable effect on teaching and textbook writing in the United States, other than perhaps at the University of Chicago.

David Solomons, a student at the LSE in the 1930s, was much influenced by Ronald Edwards. Solomons emigrated to the United States in 1959, joined the faculty at the Wharton School, and proceeded to make major contributions to both management and financial accounting (Zeff 1993, 103–104; 1995).

REVIEW OF THE CONTRIBUTIONS OF HBS'S INNOVATIONS IN ACCOUNTING AND CONTROL

The Harvard Business School was a major leader in the movement away from the traditional and narrow approaches to teaching financial and cost accounting. Previously, financial accounting was oriented almost entirely toward preparing students to become CPAs, and cost accounting toward preparing cost accountants. Managerial uses of accounting were mentioned in cost accounting textbooks, but usually only tangentially. Even today,

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[112] Interview with Harold Bierman, Jr., September 26, 2007.
[113] Communication to the author from Joel Demski, dated July 30, 2008.
[114] See Arnold and Scapens (1981), Gould (1974), Parker (1969, 29–31); and Johnson and Kaplan (1987, 156–158).

most of the teaching of financial accounting in U.S. universities continues to be focused on prepping students to take the Uniform CPA Examination and to becoming CPAs. Cost accounting, however, has largely been supplanted by management accounting.

Beginning in the late 1930s, Ross Walker was the principal driver of the control orientation in the curriculum, and the Business School, through its teaching and text- and casebooks, brought both financial and management accounting firmly within the province of management. Robert Anthony and others struck the chord that the chief *raison d'être* of accounting was to facilitate management planning and control, both at the middle and upper levels. They developed cases to bring out the real-world applications of the uses of accounting to make decisions leading to management action, and one of the Business School's major contributions was supplying academics around the world with a bountiful collection of cases that could illuminate the management uses of accounting. The authors of the text- and casebooks, as well as ICCH, by disseminating materials that were developed for their courses taught in the Business School, did much to hasten acceptance of the newly reoriented field of management accounting.

While colleagues at MIT (all but one having been recipients of an MBA from the Business School) took similar strides toward focusing on the management uses of accounting in the 1930s and 1940s, and also published a textbook embodying their approach, their impact on academics at other universities did not match that of Harvard. Nor did they supply case materials.

Although the Business School was in the vanguard of change, William Vatter at the University of Chicago also played a major innovative role in the field of management accounting, directly through his *Managerial Accounting* (1950) and indirectly through Charles Horngren's immensely successful *Cost Accounting: A Managerial Emphasis* (1962). Gordon Shillinglaw, first at MIT and then at Columbia, was also an important pioneer in this area, but his textbook, *Cost Accounting: Analysis and Control* (1961), did not sweep the market as did Horngren's.

Another important innovative thrust by the Business School, not as well appreciated as that in management accounting, was in financial accounting. This was in two respects. First, the Business School, again under Ross Walker's tutelage in the late 1930s, refocused the core Accounting Principles course primarily toward providing management with information to assess the effectiveness of its policies as well as in laying its plans, in addition to fulfilling management's traditional obligation to report to owners and outside parties. This predominant emphasis on the management use of financial accounting reports has continued in the first-year Control course ever since its inception in 1946. Second, beginning in the 1950s, the accounting faculty came to identify management's important role in choosing accounting policies that would effectively communicate its financial information—in the balance sheet and income statement—to outside parties. Both of these reorientations of financial accounting were strong elements in the Business School's curriculum, and through its faculty members' text- and casebooks came to be exported to business schools elsewhere. Today, accounting policy choice is a major subject of accounting research.

Beginning in the 1960s, the innovative work in information and control systems, which emphasized the management uses of information and not processing techniques, became a major thrust, both in terms of teaching and text- and casebook writing. Also in the 1960s, the faculty began contributing to the increasingly busy literature on the impact of company decentralization on performance measurement.

APPENDIX
HBS Faculty Who Taught Accounting Prior to 1980—Arrayed by When They Joined the Faculty
(one-year visitors and part-time faculty are omitted)

William Morse Cole 1908–33 (died 1960)
William J. Cunningham* 1915–30 (died 1962)
D. Earle Burchell 1920–23 (died 1928)
J. Hugh Jackson 1920–21, 1923–27 (died 1962)
Arthur W. Hanson 1921–57 (died 1965)
W. Arnold Hosmer 1921–23, 1931–61 (died 1968)
Thomas H. Sanders 1921–52 (died 1953)
Wyman P. Fiske 1923–1928 (died 1972)
Ross G. Walker 1926–30, 1935–58 (died 1970)
Paul B. Coffman 1927–36 (died 1990)
Clarence B. Nickerson 1932–73 (died 1991)
Cecil L. Burrill 1936–37, 1938–40 (died 1984)
Thomas H. Carroll 1937–45 (died 1964)
Robert N. Anthony 1940–42, 1946–67, 1968–82 (died 2006)
Richard S. Claire 1940–45 (died 1969)
Robert S. McNamara 1940–42
Thornton F. Bradshaw 1942–43, 1946–51 (died 1988)
James K. Hart 1942–50 (died 1976)
Leo A. Schmidt 1942–47 (died 1989)
Russell H. Hassler 1946–62 (died 1969)
Neil E. Harlan 1951–64
Dwight R. Ladd 1954–56 (died 1995)
Earl D. Bennett 1955–60 (died 2006)
Walter F. Frese 1956–72 (died 1987)
Charles J. Christenson 1957–96
John R. Yeager 1957–71 (died 1971)
Robert K. Jaedicke 1958–61
Richard F. Vancil 1958–96 (died 1996)
John Dearden 1959–90 (died 2004)
Erich A. Helfert 1959–65
James L. McKenney 1960–96 (died 2007)
R. Gene Brown 1961–63
David F. Hawkins 1962–
Robert T. Sprouse 1962–65 (died 2007)
F. Warren McFarlan 1964–2004 (Baker Foundation Professor since 2004)
Francis J. Aguilar 1965–96
Neil C. Churchill 1966–80
Brandt R. Allen 1967–70
Robert A. Howell 1967–72
William M. Zani 1968–72
William J. Bruns, Jr. 1969–2001

* Cunningham, a professor of transportation, offered a course on railroad accounting from 1915 to 1930. He retired from the faculty in 1946.

Richard L. Nolan 1969–77, 1991–2003
John K. Shank 1969–76 (died 2006)
M. Edgar Barrett 1970–77
James S. Reece 1970–75
Regina E. Herzlinger 1971–
Claudine B. Malone 1972–81
Robert G. Gilbertson 1973–78
Dennis P. Frolin 1974–80
Joseph G. San Miguel 1974–82
Norman J. Bartczak 1976–85
James I. Cash, Jr. 1976–2003
William W. Cooper 1976–80
Jack R. Buchanan 1977–80
Cornelius J. Casey, Jr. 1977–83 (died 1984)
Robin Cooper 1978–79, 1982–92
Kenneth A. Merchant 1978–90
Michael J. Sandretto 1978–85

Accounting is defined to include information systems.

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